AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 13, 18, and 19 as follows, without prejudice or disclaimer to continued examination on the merits:

1. (currently amended): A scintillator comprising:

a scintillator material comprising a single-layer barrier coating disposed thereon, wherein the barrier coating: (1) provides barrier protection to the scintillator material, (2) is capable of transmitting light therethrough, and (3) is capable of reflecting light back into the scintillator material, and wherein the barrier coating is disposed on top portions and interstitially on side portions of the scintillator material.

2. (original): The scintillator of claim 1, wherein the barrier coating comprises a material that has been modified to have light transmissive and reflective properties in addition to protective properties.

3. (original): The scintillator of claim 2, wherein the material comprises Parylene.

4. (original): The scintillator of claim 1, wherein the barrier coating comprises a protective material and a reflective material that have been co-deposited onto the scintillator material.

5. (original): The scintillator of claim 4, wherein the protective material comprises Parylene.

6. (original): The scintillator of claim 4, wherein the reflective material comprises a light reflective material that can be co-deposited with Parylene.

7. (original): The scintillator of claim 4, wherein the reflective material comprises at least one of: a metal, a metal compound, a metal oxide, and a metal halide.

8. (original): The scintillator of claim 1, wherein the scintillator material comprises at least one of: cesium iodide, cesium iodide doped with thallium, cesium iodide doped with sodium, sodium iodide, sodium iodide dope with thallium, lithium iodide, lithium iodide doped with europium, zinc sulphide, zinc sulphide doped with silver, calcium fluoride, calcium fluoride doped with europium, bismuth germinate, cesium fluoride, anthracene, stelbene, and a silicate glass containing lithium activated with cerium.

9. (original): The scintillator of claim 1, wherein the barrier coating is a single coating overlying the scintillator material.

10. (original): The scintillator of claim 1, wherein the barrier coating is disposed in a substantially conformal manner on the scintillator material.

11. (original): The scintillator of claim 1, wherein the barrier coating is applied overlying the scintillator material via at least one of: chemical vapor deposition, metal organic chemical vapor deposition, thermal evaporation, electron beam evaporation, molecular beam evaporation, and sputtering.

12. (original): The scintillator of claim 1, wherein the scintillator is used for at least one of: medical imaging, nondestructive testing of parts, and detecting contraband.

13. (currently amended): A scintillator comprising a single-layer coating thereon that protects the scintillator from ambient conditions, transmits light therethrough, and reflects light back into the scintillator, wherein the coating is disposed on top portions and interstitially on side portions of the scintillator.

14. (original): The scintillator of claim 13, wherein the coating comprises at least one of Parylene, Parylene-N, Parylene-C, Parylene-D, a metal, a metal compound, a metal oxide, and a metal halide.

15. (original): The scintillator of claim 13, wherein the coating is a single layer overlying the scintillator.

16. (original): The scintillator of claim 13, wherein the coating is disposed in a substantially conformal manner on the scintillator.

17. (original): The scintillator of claim 13, wherein the scintillator is used for at least one of: medical imaging, nondestructive testing of parts, and detecting contraband.

18. (currently amended): A radiation imaging system comprising:

an x-ray source;

an x-ray detector comprising:

a scintillator comprising:

a scintillator material comprising a single-layer barrier coating disposed thereon, wherein the barrier coating: (1) provides barrier protection to the scintillator material, (2) is capable of transmitting light therethrough, and (3) is capable of reflecting light back into the scintillator material, and wherein the barrier coating is disposed on top portions and interstitially on side portions of the scintillator material; and

an amorphous silicon array optically coupled to the scintillator;

wherein the x-ray source is capable of projecting a beam of x-rays towards the x-ray detector, the x-ray detector is capable of detecting the x-rays, and an image can be created therefrom.

19. (currently amended): A method for making a scintillator having a single-layer barrier coating thereon that has both protective properties and light reflective and light transmissive properties, the method comprising:

disposing an amorphous silicon array on a detector substrate;

disposing a scintillator material on the amorphous silicon array;

forming a single-layer barrier coating on the scintillator material;

wherein the barrier coating: (1) provides barrier protection to the scintillator material, (2) is capable of transmitting light therethrough, and (3) is capable of reflecting light back into the scintillator material, and wherein the barrier coating is disposed on top portions and interstitially on side portions of the scintillator material.

20. (original): The method of claim 19, wherein disposing the scintillator material on the amorphous silicon array comprises growing the scintillator material directly on the amorphous silicon array.

21. (original): The method of claim 19, wherein forming the barrier coating on the scintillator material comprises depositing the barrier coating onto the scintillator material via at least one of: chemical vapor deposition, metal organic chemical vapor deposition, thermal evaporation, electron beam evaporation, molecular beam evaporation, and sputtering.

22. (original): The method of claim 21, wherein the barrier coating is deposited onto the scintillator material in a substantially conformal manner.